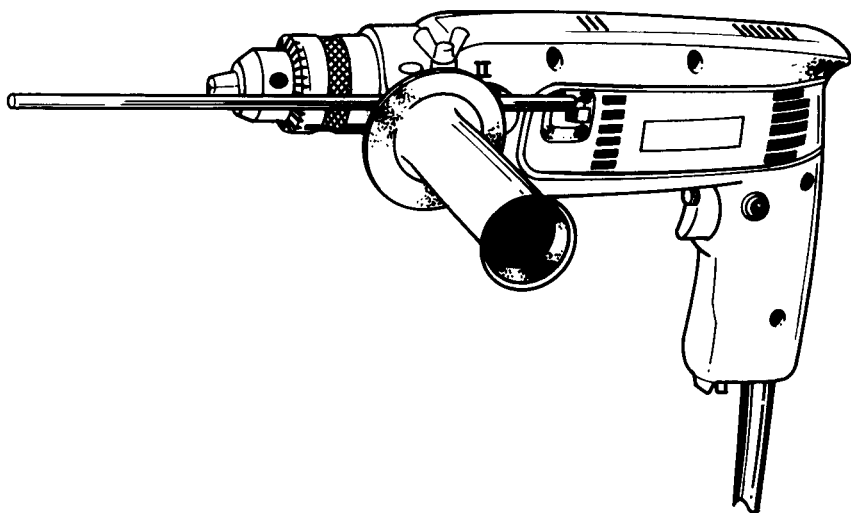


Makita

2-Speed Hammer Drill

13 mm (1/2") MODEL 8401
Variable Speed / Reversing

INSTRUCTION MANUAL



**DOUBLE
INSULATION**

SPECIFICATIONS

Speed	Capacities			No load speed (RPM)	Blows per minute	Overall length	Net weight
	Steel	Wood	Concrete				
High	6.5 mm (1/4")	18 mm (3/4")	10 mm (3/8")	0 - 2,800	0 - 30,800	310 mm (12-7/32")	2.2 kg (4.5 lbs)
Low	13 mm (1/2")	30 mm (1-1/8")	13 mm (1/2")	0 - 1,100	0 - 12,100		

* Manufacturer reserves the right to change specifications without notice.

* Note: Specifications may differ from country to country.

IMPORTANT SAFETY INSTRUCTIONS

(For All Tools)

WARNING: WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY, INCLUDING THE FOLLOWING:

READ ALL INSTRUCTIONS.

1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **CONSIDER WORK AREA ENVIRONMENT.** Don't use power tools in damp or wet locations. Keep work area well lit. Don't expose power tools to rain. Don't use tool in presence of flammable liquids or gases.
3. **KEEP CHILDREN AWAY.** All visitors should be kept away from work area. Don't let visitors contact tool or extension cord.
4. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
5. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
6. **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended; for example, don't use circular saw for cutting tree limbs or logs.
7. **DRESS PROPERLY.** Don't wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
8. **USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty.
9. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
10. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
11. **DON'T OVERREACH.** Keep proper footing and balance at all times.
12. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
13. **DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.

14. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
15. **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure switch is OFF when plugging in.
16. **EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

TABLE 1 MINIMUM GAGE FOR CORD SETS

			Total Length of Cord in Feet			
			0 – 25	26 – 50	51 – 100	101 – 150
Ampere Rating More Than		Not More Than	A W G			
0	—	6	18	16	16	14
6	—	10	18	16	14	12
10	—	12	16	16	14	12
12	—	16	14	12	Not Recommended	

17. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
18. **STAY ALERT.** Watch what you are doing, use common sense. Don't operate tool when you are tired.
19. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Don't use tool if switch does not turn it on and off.
20. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.
21. **REPLACEMENT PARTS.** When servicing, use only identical replacement parts.
22. **POLARIZED PLUGS.** To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

VOLTAGE WARNING: Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that specified for the tool can result in **SERIOUS INJURY** to the user — as well as damage to the tool. If in doubt, **DO NOT PLUG IN THE TOOL**. Using a power source with voltage less than the nameplate rating is harmful to the motor.

ADDITIONAL SAFETY RULES

1. Wear a hard hat (safety helmet), safety glasses and/or face shield. It is also highly recommended that you wear a dust mask, ear protectors and thickly padded gloves.
2. Under normal operation, the tool is designed to produce vibration. The screws can come loose easily, causing a breakdown or accident. Check tightness of screws carefully before operation.
3. Always be sure you have a firm footing.
Be sure no one is below when using the tool in high locations.
4. Hold the tool firmly with both hands. Always use the side grip.
5. Keep hands away from rotating parts.
6. Do not leave the tool running. Operate the tool only when hand-held.
7. When drilling into walls, floors or wherever “live” electrical wires may be encountered, **DO NOT TOUCH ANY METAL PARTS OF THE TOOL!**
Hold the tool by the insulated grasping surfaces to prevent electric shock if you drill into a “live” wire.
8. Do not touch the bit or the workpiece immediately after operation; they may be extremely hot and could burn your skin.

SAVE THESE INSTRUCTIONS.

Installing side grip (auxiliary handle)

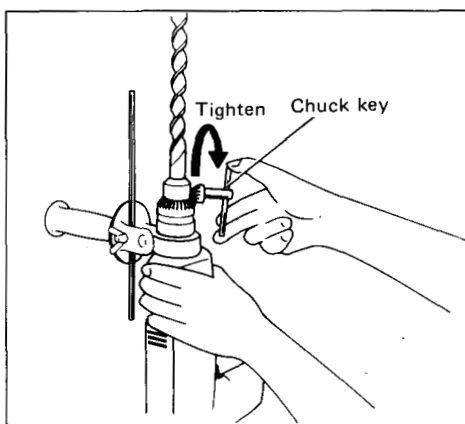
The side grip is an important means of maintaining good control of this hammer drill during use in the event bit or accessory jams, causing the tool twist from your hand with the potential to cause injury. Loosen the wing nut on the side grip and install the side grip on the tool. The side grip swings around to either side, allowing easy handling of the tool in any position. Swing the side grip to the desired position and then tighten the wing nut to secure the side grip.

Installing or removing drill bit

CAUTION:

Always be sure that the tool is switched off and unplugged before installing or removing the bit.

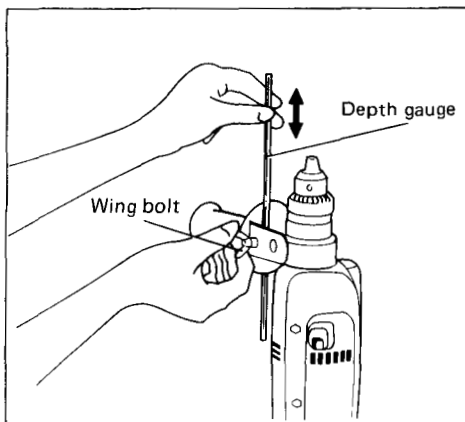
To install the bit, place it in the chuck as far as it will go. Tighten the chuck by hand. Place the chuck key in each of the three holes and tighten clockwise. Be sure to tighten all three chuck holes evenly. To remove the bit, turn the chuck key counterclockwise in just one hole, then loosen the chuck by hand.



After using the chuck key, be sure to return it to the original position.

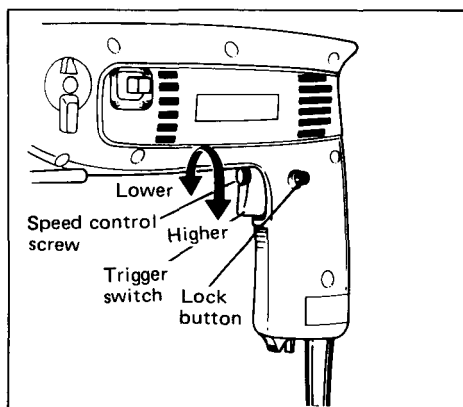
Depth gauge

The depth gauge is convenient for drilling holes of uniform depth. Loosen the wing bolt and adjust the depth gauge to the desired depth. After adjusting, tighten the wing bolt to secure the depth gauge.



Switch action

Tool speed is increased by increasing pressure on the trigger. To start the tool, simply pull the trigger. Release the trigger to stop. For continuous operation, pull the trigger and then push in the lock button. To stop the tool while in the locked position, pull the trigger fully, then release it. A speed control screw is provided so that tool speed can be maintained at a constant speed other than its maximum speed. Turn the speed control screw clockwise for higher speed, and counterclockwise for lower speed.

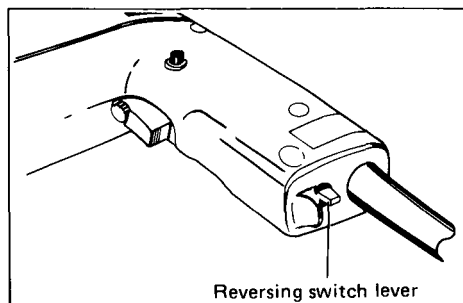


CAUTION:

Before plugging in the tool, always check to see that the trigger switch actuates properly and returns to the "OFF" position when released.

Reversing switch action

This tool has a reversing switch to change the direction of rotation. Move the reversing switch lever to the "FWD" position for clockwise rotation or the "REV" position for counterclockwise rotation.

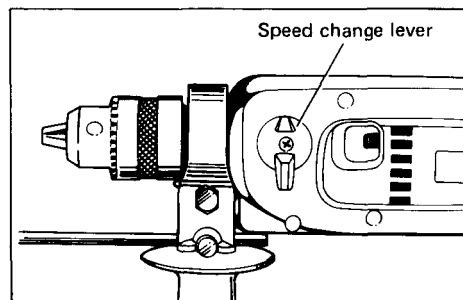


CAUTION:


- Always check the direction of rotation before operation.
- Use the reversing switch only after the tool comes to a complete stop. Changing the direction of rotation before the tool stops may damage the tool.


Speed change

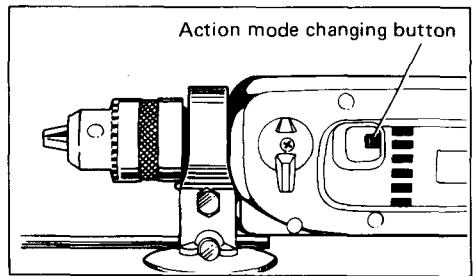
A gear shift mechanism allows tool operation within two versatile speed ranges. For higher speeds, turn the speed change lever so that its Δ mark is aligned with the "II" mark on the tool body. For lower speeds, turn the speed change lever so that its Δ mark is aligned with the "I" mark on the tool body.



Action mode

This tool employs action mode changing buttons. For rotation only, press the button on the  mark side fully.

For rotation with hammering action, press the button on the  mark side fully.




CAUTION:

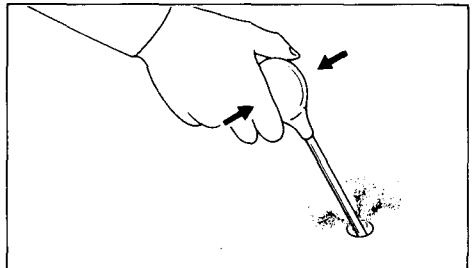
Be sure to press the action mode changing button as far as it will go. Failure to do so may cause malfunction of the tool.

Operation


1) Hammer drilling operation

When drilling in concrete, granite, tile, etc., press the button on the  mark side fully. Be sure to use a tungsten-carbide tipped bit. Do not apply more pressure when the hole becomes clogged with chips or particles. Instead, run the tool at an idle, then remove the bit partially from the hole. By repeating this several times, the hole will be cleaned out.

After drilling the hole, use the blow-out bulb to clean the dust out of the hole.



2) Drilling operation

When drilling in wood, metal or plastic materials, press the button on the  mark side fully. Generally, select higher speeds for smaller diameter bits and lower speeds for larger diameter bits.

• Drilling in wood

When drilling in wood, best results are obtained with wood drills equipped with a guide screw. The guide screw makes drilling easier by pulling the bit into the work-piece.

• Drilling in metal

To prevent the bit from slipping when starting a hole, make an indentation with a centerpunch and hammer at the point to be drilled. Place the point of the bit in the indentation and start drilling. Use a cutting lubricant when drilling metals. The exceptions are iron and brass which should be drilled dry.

CAUTION:

- Pressing excessively on the tool will not speed up the drilling. In fact, this excessive pressure will only serve to damage the tip of your bit, decrease the tool performance and shorten the service life of the tool.
- There is a tremendous twisting force exerted on the tool/bit at the time of hole breakthrough. Hold the tool firmly and exert care when the bit begins to break through the workpiece. Use both hands to help control the tool. Be sure to use the side grip (auxiliary handle) to maintain proper control.
- A stuck bit can be removed simply by setting the reversing switch to reverse rotation in order to back out. However, the tool may back out abruptly if you do not hold it firmly.
- Always secure small workpieces in a vise or similar hold-down device.
- The use of wire brushes and other accessories on this tool may easily cause jamming, pinching or binding whereby the tool could be twisted unsafely from your hands.

MAINTENANCE

CAUTION:

Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

To maintain product **SAFETY** and **RELIABILITY**, repairs, carbon brush inspection and replacement, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

ACCESSORIES

CAUTION:

These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. The accessories or attachments should be used only in the proper and intended manner.

- **Tungsten-carbide tipped (hammer) bit**

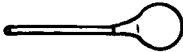


- **Depth gauge**
Part No. 321059-7



Part No.	Bit diameter	Overall length
711120-A	3/16"	4"
711121-A	1/4"	4"
711122-A	1/4"	6"
711123-A	5/16"	6"
711124-A	3/8"	6"
711125-A	1/2"	6"
711128-A	1/4"	13"
711129-A	3/8"	13"
711130-A	1/2"	13"

- **Blow-out bulb**
Part No. 765009-6



- **Steel carrying case**
Part No. 182463-3



- **Chuck key**
Part No. 763411-7

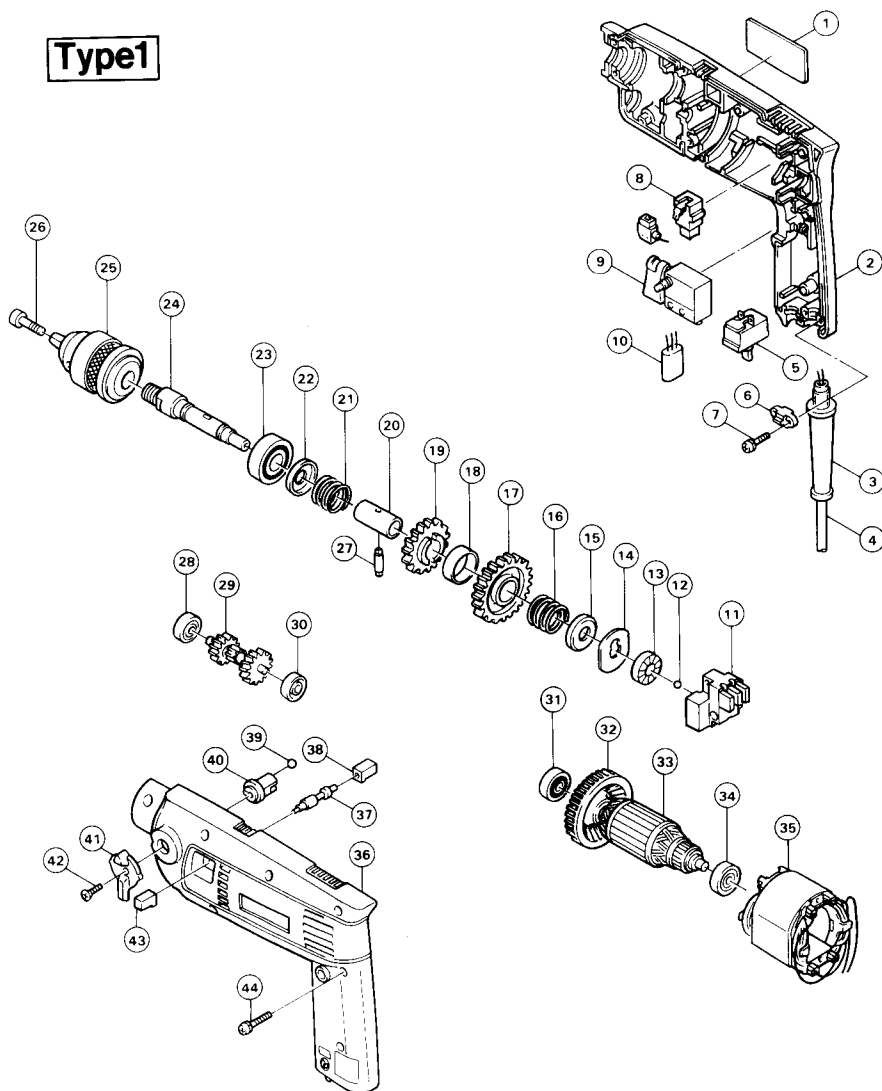


- **Grip**
Part No. 273627-1



13 mm (1/2") **2-SPEED HAMMER DRILL** **Model 8401**

Type1



Note: The switch, noise suppressor and other part configurations may differ from country to country.

ITEM NO.	NO. USED	DESCRIPTION	ITEM NO.	NO. USED	DESCRIPTION
MACHINE			MACHINE		
1	1	Name Plate	24	1	Spindle
2	1	Housing Set (With Item 36)	25	1	Drill Chuck S13
3	1	Cord Guard	26	1	Flat Head Screw M6x22
4	1	Cord	27	1	Pin 5.5
5	1	Switch	28	1	Ball Bearing 626Z
6	1	Strain Relief	29	1	Gear Complete 9-18-34
7	2	Pan Head Screw M4x18 (With Washer)	30	1	Ball Bearing 626Z
8	2	Carbon Brush	31	1	Ball Bearing 608LB
9	1	Switch	32	1	Fan 52
11	1	Cam Holder	33	1	ARMATURE ASSEMBLY
12	1	Steel Ball 4.8			(With Item 31 - 34)
13	1	Cam B	34	1	Ball Bearing 627LB
14	1	Washer 13	35	1	Field
15	1	Cup Washer 13	36	1	Housing Set (With Item 2)
16	1	Compression Spring 25	37	1	Shifter Rod
17	1	Spur Gear 41	38	1	Push Button
18	1	Ring 24	39	1	Steel Ball 6.4
19	1	Spur Gear 32	40	1	Gear Shift Pin
20	1	Plane Bearing 13	41	1	Gear Shift Lever
21	1	Compression Spring 25	42	1	Flat Head Screw M14x12
22	1	Cup Washer 13	43	1	Push Button
23	1	Ball Bearing 6202LLB	44	9	Pan Head Screw M4x22 (With Washer)

Note: The switch and other part specifications may differ from country to country.

MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- repairs are required because of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

Makita Corporation

3-11-8, Sumiyoshi-cho,
Anjo, Aichi 446 Japan

883797A066

PRINTED IN JAPAN

1993 - 4 - N